

WHAT IS CLAIMED IS

- 5 *Sub 1* 1. A plasma treated thermoplastic, open-celled, porous polymeric film layer, wherein said film layer is treated with plasma to make the pore space thereof more hydrophilic, and wherein said film layer has the following properties: (a) a receding contact angle for water of less than 35°; (b) a pore volume fraction of at least 0.40, and (c) a pore accessibility for water of at least 0.60.
- 10 2. A monolayer film comprising the film layer of claim 1.
3. A multi layer film comprising a surface layer of the film layer according to claim 1.
- 15 4. A film layer according to claim 1, wherein the polymer of the matrix material of said layer is a polyolefin selected from the group consisting of polypropylene, polyethylene, polybutylene and copolymers and blends thereof.
5. A film layer according to claim 1, wherein the polymer of the matrix material of said layer is an isotactic polypropylene, containing at least about 80% by weight of isotactic polypropylene.
- 20 6. A film layer according to claim 1 having a receding contact angle for water of less than 10°, a pore volume fraction of at least 0.45, and a pore accessibility of at least 0.75.
- Sub 2* 7. A method for plasma treating a porous thermoplastic polymeric film to make the pore space thereof more hydrophilic, wherein said film has at least one surface layer comprising exposed pores, wherein said
- 25 method comprises the simultaneous steps of:
- (a) passing said film between two electrodes, wherein one of said electrodes is a plasma generating electrode, which faces an outer surface of said film layer having exposed pores, and the other electrode is a plasma attracting electrode, which is positioned
- 30 adjacent to the opposite side of the film;
- (b) operating said plasma generating electrode under conditions sufficient to generate plasma; and

(c) operating said plasma attracting electrode under conditions sufficient to draw plasma generated in step (b) into the pore space of said porous film layer.

8. A method according to claim 7, wherein said plasma attracting
5 electrode is in the form of a roll, which is in physical contact with the film being plasma treated.

9. A method according to claim 8, wherein said roll is a cooling roll.

10. A method according to claim 8, wherein said plasma generating
10 electrode is operated at a higher power and frequency than said plasma attracting electrode.

11. A method according to claim 8, wherein said plasma generating
electrode is operated at a frequency of from 5 MHz to 100 MHz. and said
plasma attracting electrode is operated at a frequency of from 10 kHz to
500 kHz.